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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,814	01/05/2001	Brian Gerard Goodman	TUC920000052US1	5411

24033 7590 12/04/2003

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EXAMINER

YANCHUS III, PAUL B

ART UNIT PAPER NUMBER

2185

DATE MAILED: 12/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,814

Applicant(s)

GOODMAN ET AL.

Examiner

Paul B Yanchus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 7-10, 17, 18-21, 24-27, 34, 35-38, 41-44 and 51 are rejected under 35

U.S.C. 102(e) as being anticipated by Fiske, US Patent no. 6,324,692.

Regarding claims 1, 7, 9, 10 and 17, Fiske teaches a method for selecting a code image during a reboot routine, comprising:

maintaining multiple code images in a memory device [new program and current program];

executing a first operation routine [reboot];

incrementing a first counter if the first operation routine succeeds [reboot counter];

executing a second operation routine [reboot driver];

incrementing a second counter if the second operation routine succeeds [setting flag]; and

using the first and second counters to select one of the code images from the memory device to execute [Figure 2 and column 3, line 55 – column 4, line 39].

Fiske teaches deciding whether to execute a new version of a program or a current version of the program. After the new version of the program is installed, the system is rebooted.

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After reboot, a reboot driver is then executed to determine if the system is configured as expected. If the system is configured as expected, a flag is set and the new version of the program proceeds to be executed. Setting a flag value is essentially equivalent to incrementing a counter from 0 to 1. If the system is not configured as expected the flag value is not set and a reboot counter is incremented. The reboot counter keeps track of the number of times the system has rebooted since the system was last configured correctly. If the reboot counter reaches a threshold, the system determines that the new version of the program is non-operable and reverts back to the previously installed program [Figure 2 and column 3, line 55 – column 4, line 39].

Regarding claim 2, Fiske teaches designating the new version of the program non-operational when the reboot counter reaches a threshold and the flag is not set [column 4, lines 10-34].

Regarding claim 3, Fiske teaches that the reboot counter is incremented until it reaches a certain threshold. Therefore it is inherent that the reboot counter would have a value be greater than zero. Fiske teaches that the flag is not set (or has a zero value) when the system configuration is not in an expected state [column 4, lines 10-34].

Regarding claim 8, Fiske teaches setting a flag when the system configuration is determined to be in an expected state. Setting a flag is essentially incrementing the value from a 0 to a 1. Fiske also teaches rebooting and repeating the process if the system configuration is not in an expected state [Figure 2 and column 3, line 55 – column 4, line 39].

Regarding claims 18-21, 24-27 and 34, Fiske teaches a method for updating system firmware, as described above. Therefore, Fiske also teaches a system which performs the method.

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Regarding claims 35-38, 41-44 and 51, Fiske teaches a method for updating system firmware, as described above. Therefore, Fiske also teaches a system which performs the method.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6, 21-23 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske, US Patent no. 6,324,692, in view of, Narayanaswamy et al., US Patent no. 6,275,931.

Regarding claim 4, Fiske does not explicitly teach overwriting a non-operational code image in order to store an updated code image. Narayanaswamy et al. teaches a firmware update method similar to Fiske, but also teaches replacing an inactive boot code with a new or upgraded boot code [column 5, lines 15-55]. It would have been obvious to one of ordinary skill in the art to combine the teachings of Fiske and Narayanaswamy et al. Overwriting non-operational code with an updated version of the code would be an efficient way to save memory in the system.

Regarding claim 5, Narayanaswamy et al. teaches that when a new or updated version of the boot code is verified to be operational it is placed in the active state. The previous version of the boot code is subsequently placed in the inactive state. When the next update becomes available the older version of the boot code is inactive and will be overwritten by the newest version of boot code [column 6, lines 39-53].

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Regarding claim 6, it would have been obvious to one of ordinary skill in the art to overwrite a corrupted version of a code image with an updated version of the code image, since the corrupted code image can not be used by the system.

Regarding claims 21-23, Fiske teaches a method for updating system firmware, as described above. Therefore, Fiske also teaches a system which performs the method.

Regarding claims 48-50, Fiske teaches a method for updating system firmware, as described above. Therefore, Fiske also teaches a system which performs the method.

Claims 11-16, 28-33 and 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiske, US Patent no. 6,324,692, in view of, Goldman et al., US Patent no. 6,564,371.

Fiske does not teach testing the functionality of a code image after a code image is loaded. Goldman et al. teaches a firmware update method similar to Fiske, but also teaches testing the actual operation of the system after booting the system and loading an updated code image. If the new code image is operating successfully it is set to the current code image. If the new code image does not operate successfully it is set to be the not current code image [column 8, line 11-18]. It would have been obvious to one of ordinary skill in the art to combine the teachings of Fiske and Goldman et al. Taking into account the functionality of a code image after it is loaded ensures that the system will be able to revert back to an old working version of the code image if the functionality of the new code image were to fail. This provides a more reliable way to upgrade the software of a system.

Conclusion

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Biondi, US Patent no. 6,622,246, teaches storing two versions of firmware and executing whichever one of the two is considered valid.

Huh et al., US Patent no. 6,584,559, teaches validating a new version of firmware before using it.

JP08328756A teaches guaranteeing compatibility of firmware in a system.

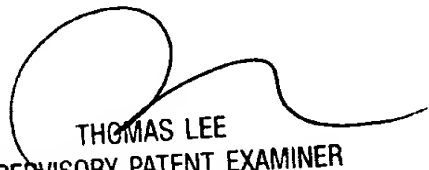
"System Firmware Update Method before Rebooting the Operating System" teaches a method of updating system firmware.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul B Yanchus whose telephone number is (703) 305-8022. The examiner can normally be reached on Mon-Thurs 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Paul Yanchus
December 1, 2003


THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100